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Final

## Meeting Minutes Transmittal/Approval

Unit Managers Meeting  
304 Concretion Facility Closure Plan  
740 Stevens Center, Room 2100  
Richland, Washington

Meeting Held January 12, 1993

### 304 Concretion Facility Unit Managers' Approval

Randall N. Krekel Date: 3-11-93  
Randall N. Krekel, RL, EAP/RPB, Regulatory Permit Branch, Unit Manager

Not Present

Date: \_\_\_\_\_  
Daniel L. Duncan, EPA Region 10, RCRA Program Manager

Scott E. McKinney Date: 3-11-93  
Scott E. McKinney, Washington State Department of Ecology, Unit Manager

### 304 Concretion Facility, WHC Concurrence

Fred Ruck III Date: 3/11/93  
Fred Ruck III, WHC, Contractor Representative

Not Present

Date: \_\_\_\_\_  
David J. Watson, WHC, Contractor Representative

Meeting Minutes are attached. Minutes are comprised of the following:

- Attachment #1 - Summary of Discussion
- Attachment #2 - Agenda for the Meeting
- Attachment #3 - Attendance List
- Attachment #4 - Commitments/Agreements Status List
- Attachment #5 - Table of Contents, WHC-CM-4-3, Volume 4
- Attachment #6 - Status of CERCLA 300 Area Operable Units
- Attachment #7 - Manual WHC-CM-7-7, Section EII 2.1, Rev. 3\*, Preparation  
Hazardous Waste Operations Permits



Attachment #1

Summary of Discussion

Unit Managers Meeting:  
304 Concretion Facility Closure Plan

January 12, 1993

**Sign Previous Meeting Minutes:** The minutes from the December 1992 Unit Manager Meeting were reviewed and signed by the Unit Managers.

**Status of Action Items:** Action Item 11-21-91:1, WHC (F. Ruck) provided to Ecology (McKinney) the Table of Contents (see attachment #5) of manual WHC-CM-4-3, Volume 4, Release 1 which contains the site-wide Health and Safety Plans, "Health and Safety for Hazardous Waste Field Operations," "Hazardous Waste Operations at RCRA TSD Facilities," and "Hazardous Waste Operations Emergency Response." This action item is closed.

Action Item 11-5-92:1, WHC (F. Ruck) provided to Ecology (McKinney) a list of the CERCLA 300 Area Operable Units and their status (see Attachment #6). This action item is closed.

Action Item 11-21-91:2, WHC (F. Ruck) provided to Ecology (McKinney) an example of a Hazardous Waste Operating Permit as part of the Environmental Investigation Instruction 2.1 (see Attachment #7). This action item is closed.

Action Item 9-17-92:5, the N-Reactor Shutdown schedule, is undergoing review at RL.

**Status of Cement Mixer:**

- Status of Ecology's Review of the Analytical Data: Ecology (S. McKinney) indicated that the State Toxicity test was negative. He will check into the possibility of longterm total carcinogens above the action level. An Action Item was taken by Ecology:

1-12-93:1 Ecology will provide their position after a final review of the analytical data in regard to total carcinogens and whether TCLP will be required on the cement, by February 15, 1993. Action: S. McKinney (Ecology)

- Status of the Removal of the Cement Mixer: WHC (J. Remaize) provided the status. The oil will be drained from the mixer on January 13, 1993, and analyzed. The mixer is scheduled to be removed by the end of February. It is tentatively scheduled to be dismantled and placed in a low level burial box, pending the outcome of the final analytical review by Ecology. Should Ecology's review extend beyond February 15, the mixer will be removed and stored at the 303-K Facility.

(continued)

## Summary of Discussion (continued)

### Status of Rewriting the *Policy C-1 Soil Cleanup/Remediation for Hanford*:

Ecology stated that the timeframe for issuance of *Policy C-1 Soil Cleanup/Remediation for Hanford* is not certain, but should be during the first half of calendar year 1993.

**New Business:** No new business.

**Next Meeting:** The next meeting was scheduled for Wednesday, February 10, 1993.

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Attachment #2

Agenda

Unit Managers Meeting:  
304 Concretion Facility Closure Plan

January 12, 1993

- Sign Previous Meeting Minutes
- Status Any Action Items
- Cement Mixer
  - Status of Ecology's Review of the Analytical Data
  - Status of the Removal of the Cement Mixer
- Status of Rewriting the *Policy C-1 Soil Cleanup/Remediation for Hanford*
- Discuss any New Business

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January 12, 1993

**Name**

RoleD.L. Banning

WAC

Closure Lead

(509) 376-1057

5A REMAINE

1644

File 14-00000

(5) 2000-2002

Ed Weasley

wite

Emp

(54) 376.6122

Agua Blanca

\_\_\_\_\_

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

( ) \_\_\_\_\_

Randall N. Knekel

RL

REPORT  
MANAGER

(509) 376-4264

Scott E. Makinson

## Ecology

Unit Manager

-(206) 459-6725

KAY KIMMEL

MACT

GSSC

(509) 376-1985

Fre! A Rock

ILAC

RCHA Check:

5 (SF) 371

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Attachment #4

Commitments/Agreements Status List

Unit Managers Meeting  
304 Concretion Facility Closure Plan  
January 12, 1993

ACTION ITEM.

COMMITMENTS/AGREEMENTS STATUS LIST

11-21-91: 1 RL/WHC will give the status of the site-wide Health & Safety Plan (HASP). Action: F. Ruck (WHC)  
CLOSED 1/12/93

11-21-91:2 RL/WHC will give Ecology an example of a Hazardous Waste Operating Permit. Action: F. Ruck (WHC)  
CLOSED 1/12/93

9-17-92:2 RL/WHC will investigate the analyses of the concrete mixer oil for PCBs and ensure that the oil is tested. RL/WHC will inform Ecology of the analyses for PCBs. Action: F. Ruck (WHC)  
CLOSED 11/5/92

9-17-92:5 RL/WHC will supply Ecology with an approved schedule of N-Reactor Shutdown activities which includes the future use of the 304 Concretion Facility. Action: D.L. Banning (WHC)  
OPEN

11-5-92:1 WHC will provide Ecology with a list of the 300 Area CERCLA Operable Units and their status. Action: F.A. Ruck (WHC)  
CLOSED 1/12/93

1-12-93:1 Ecology will provide their position after a final review of the analytical data in regard to total carcinogens and whether TCLP will be required on the cement, by February 15, 1993. Action: S. McKinney (Ecology)  
OPEN

## ATTACHMENT #5

HEALTH AND SAFETY PROGRAMS  
FOR HAZARDOUS WASTE OPERATIONSManual  
Release  
Page  
Effective DateWHC-CM-4-3, Volume 4  
1  
1 of 1  
September 30, 1992

## TABLE OF CONTENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REV</u>	<u>EFFECTIVE DATE</u>
HWO-1	Health and Safety for Hazardous Waste Field Operations	0	05/01/92
	App. A, Acronyms and Abbreviations	0	05/01/92
	App. B, Health and Safety Program Guidance	0	05/01/92
	App. C, Site Characterization and Analysis Guidance	0	05/01/92
	App. D, Site Control Guidance	0	05/01/92
	App. E, Training Guidance	0	05/01/92
	App. F, Medical Surveillance Guidance	0	05/01/92
	App. G, Employee Protection Guidance	0	05/01/92
	App. H, Monitoring Guidance	0	05/01/92
	App. I, Information Programs Guidance	0	05/01/92
	App. J, Drum and Container Handling Guidance	0	05/01/92
	App. K, Decontamination Guidance	0	05/01/92
	App. L, Emergency Response Guidance	0	05/01/92
	App. M, Illumination Guidance	0	05/01/92
	App. N, Sanitation Guidance	0	05/01/92
	App. O, New Technology Program Guidance	0	05/01/92
	App. P, Reference Matter	0	05/01/92
HWO-2	Hazardous Waste Operations at RCRA TSD Facilities	0	09/30/92
HWO-3	Hazardous Waste Operations Emergency Response	0	09/30/92

9 3 1 2 3 4 5 6 7 8 9

ATTACHMENT #6

[2] From: Fred A Ruck at ~WHC37 12/10/92 8:33AM (537 bytes: 9 ln)  
Priority: Urgent  
To: Richard A Carlson at ~WHC249  
cc: Dave L Banning  
Subject: STATUS OF OPERABLE UNIT WORK PLANS IN 300 AREA

----- Message Contents -----

Rich,

At my last UMM with Ecology, he requested a status of the past practice activities in the 300 Area. Could you please provide the following information:

Name of OU, Document, Status

Thanks a lot!!!!

FAR

300-FF-5 , DOE/RL 89-14 , Field investigations are complete, with the exception of quarterly groundwater sampling. Preparation of Phase RI and Phase I and II FS reports are underway. Due for regular review July 15, 1993. *dc:Zhelatrom 12/16/92*

300-FF-1 , DOE/RL 88-31 , (WORK PLAN) PHASE I RI COMPLETE WITH RI REPORT (DOE/RL-92-43) SUBMITTED TO REGULATORS ON SEPT. 15, 1992 FOR COMMENTS. PHASE I/II FS REPORT (DOE/RL-92-46) SUBMITTED TO REGULATORS ON SAME D. (SEPT 15, 1992) FOR COMMENT. HAVE RECEIVED COMMENT AND ARE SCHEDULED TO HAVE THEM DISPOSITIONED ~~AND~~ AND APPROVED BY REGULATORS BY FEB 1, 1993.

SOIL WASHING TREATABILITY TEST WAS AWARDED TO TWO BIDDERS. TWO PROTESTS WERE FILED TO DATE AND ALL ACTIVITY IS HALTED UNTIL THE PROTESTS ARE RESOLVED

WESTINGHOUSE HANFORD COMPANY

Manual  
Section  
PageWHC-CM-7-7  
EII 2.1, REV 3\*  
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May 1, 1990  
Organization ENV/Environmental  
Engineering, Technology and  
PermittingENVIRONMENTAL INVESTIGATIONS AND  
SITE CHARACTERIZATION MANUAL

Effective Date

Organization

Engineering, Technology and  
Permitting

TITLE:

Approved by

PREPARATION OF HAZARDOUS  
WASTE OPERATIONS PERMITS4/20/90  
L. C. Brown, Manager  
Environmental Engineering,  
Technology and Permitting

### 1.0 PURPOSE

This instruction provides requirements for the content, responsibilities and approvals necessary for preparing site-specific Tier 3 Hazardous Waste Operations Permits (HWOP), formerly called Health and Safety Plans (HASP) and/or Pre-Job Safety Plans (PJSP), and guidance for content of Tier 2 Health and Safety Plans.

### 2.0 SCOPE

All field work falling under the scope of 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," must be performed under a project/task specific site health and safety plan. This applies for sites covered under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA) as required by 29 CFR 1910.120.

### 3.0 DEFINITIONS

Hazardous Waste Site Management Contractor. The Hazardous Waste Site Management Contractor (HWSMC) is the U.S. Department of Energy-Richland Operations Office (DOE-RL) Maintenance and Operating (M&O) Contractor who has been assigned onsite responsibility for the investigatory work on a specific hazardous waste site. However, the HWSMC may fund work to be accomplished by other site contractors for which site management is included within their (the funded contractor's) scope of work. In such instances, the funded contractor will assume the primary site management and safety responsibilities associated with this DOE Order and the funding contractor will be expected to understand and comply with the funded contractor's site requirements. As stated, the funded contractor (in certain instances) becomes the HWSMC. The DOE-RL contractor and subcontractor(s) shall have an approved site HASP (hereafter referred to as the site HWOP). (DOE-RL Order 5480.10A, "Industrial Hygiene Program," Part J.)

\*This is a major revision; therefore, no revision bars are used to indicate changes.

ENVIRONMENTAL INVESTIGATIONS AND  
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Tier 1 Document. The Tier 1 document is WHC-CM-4-3, Industrial Safety Manual, Volume 4, "Hazardous Waste Field Operations," and will serve as a sitewide hazardous waste health and safety reference document applicable to all RCRA/CERCLA investigations and may be referenced in Tier 2 and/or Tier 3 documents.

Tier 2 Health and Safety Plan. The Tier 2 HASP is included in the remedial investigation work plan level document and prepared once for each Operable Unit (OU). It will consist of the site description and discussion of types/sources of contamination based on all available information. It is not intended to provide site specific detail, this information will be detailed in the Tier 3 HWOP.

Tier 3 Hazardous Waste Operations Permit. The Tier 3 site/task specific HWOP will replace all other previously used terms, i.e., HASP and PJSP, except the Tier 2 work plan level HASP defined above. It will provide specific site details as explained in Appendices A and B of this instruction.

#### 4.0 RESPONSIBILITIES

##### 4.1 ENVIRONMENTAL ENGINEERING AND GEOTECHNOLOGY FUNCTION

The Environmental Engineering and Geotechnology (EE&G) Function, when assigned as HWSMC, has the lead responsibility for generating and obtaining approval of the Tier 2 HASP and for the field activities associated with the hazardous waste site. The Function Manager has delegated this responsibility to the Environmental Field Services (EFS) Group Manager. The EE&G Function, as the HWSMC representative, has site safety responsibility for implementation and enforcement of the HWOP on each site.

##### 4.2 APPROVAL RESPONSIBILITIES

*The HWOP will be approved by the following Westinghouse Hanford Company (WHC) representatives:*

- 1. Health and Safety Officer. A member of EFS who has responsibility for field site industrial hygiene and safety monitoring and general site health and safety activities.*
- 2. Industrial Hygiene and Safety.*
- 3. Operational Health Physics.*

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4.3 *This paragraph is intentionally left blank and will be updated in the next revision of this EII.*

#### 4.4 HAZARDOUS WASTE SITE RESPONSIBILITIES AND ROLES

##### 4.4.1 Project Coordinator

The Project Coordinator is responsible for and has the authority to direct all RCRA/CERCLA operations on a specific OU, designated RCRA facility or CERCLA site. As such, the Project Coordinator is responsible for managing project health and safety, i.e., achieving results, in the same manner as any other aspect of the project. The Project Coordinator may rely on the Health and Safety Officer (HSO) and the Manager of Health Physics for guidance and technical support, but the ultimate responsibility and accountability for making project safety work lies with the Project Coordinator. The Project Coordinator must set a proper example, and clearly convey the WHC's high regard for health and safety to every employee under his direction. In addition, the Project Coordinator must provide the necessary management support and allocate and administer all of the necessary resources to permit each employee to perform the job safely.

##### 4.4.2 Field Team Leader

The Field Team Leader shall rely on the Site Safety Officer (SSO) and the Health Physics Technician (HPT) for monitoring site conditions and implementing designated procedures in the field, but the responsibility for health and safety "performance" in the field rests with the Field Team Leader. The Field Team Leader can temporarily halt work at any time if, in his opinion, it is necessary to protect the health and well being of site workers or the general public. Specific responsibilities of the Field Team Leader include:

1. Being aware of and complying with all applicable federal, state, and local occupational health and safety regulatory requirements.
2. Verifying that all permits, supporting documentation and clearances for a given task (i.e., electrical outage requests, hazardous work permits, excavation permits, HWOP onsite/offsite Radiation Shipping Records, etc.) are in place.
3. Informing the appropriate Site Management and Safety personnel of the activities to be performed each day.
4. Providing technical advice during routine operations and emergencies.
5. Handling field emergency response situations that may arise.

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6. Conducting pre-job and daily tail-gate safety meetings.
7. Verifying that all team members are appropriately trained in accordance with EII 1.1, "Hazardous Waste Site Entry Requirements."
8. Maintain field logbooks in accordance with EII 1.5, "Field Logbooks."

#### 4.4.3 Health and Safety Officer

The HSO shall meet the qualification requirements for the Health and Safety Officer as stated in WHC-CM-4-3, Volume 4. The HSO shall be responsible for implementing an effective hazardous waste operations health and safety program and shall have the requisite authority to implement the procedures set forth in WHC-CM-4-3, Volume 4, including the authority to temporarily halt work on a project if necessary to protect employees' safety or health. The HSO's primary duties are to serve as a resource to assist every WHC employee in doing their part to comply with the intent of the manual, and to advise management on health and safety issues. The HSO may delegate certain duties to the SSO, but shall be ultimately responsible for the following:

1. Overseeing the employee medical surveillance program and interacting with examining physicians as required.
2. Investigating site histories, performing site characterizations, assessing site/task specific hazards, and identifying those projects/tasks that require site HWOPs.
3. Developing or assessing appropriate task specific monitoring procedures, action levels, levels of personal protective equipment (PPE) and health and safety requirements for the site and the HWOP.
4. Coordinating the radiological health aspects of the site with Health Physics where required.
5. Resolving any conflicts that may arise during preparation of the site HWOP.
6. Participating in a pre-job safety briefing with project/task personnel to discuss requirements and levels of protection specified in the site HWOP.

7. Performing onsite monitoring as required.
8. Performing periodic site inspections/audits.
9. Following-up and/or correcting all deficiencies noted during site inspections.
10. Maintain field logbooks in accordance with EII 1.5.

#### 4.4.4 Site Safety Officer

The HSO may act as the SSO or may designate an individual to act on his behalf at the work site. Where the HSO determines that a task does not involve a reasonable possibility of exposure to chemical hazards, the Field Team Leader or another team member may serve as the designated SSO for that particular task.

The SSO has the overall responsibility for assuring that provisions of each HWOP are implemented in the field by all WHC employees, contractors and subcontractors. The SSO must be trained to implement the requirements in the site HWOP, including correct use of monitoring instruments, health and safety criteria for the site, documentation of monitoring results, and actions to take if site conditions change. The designated SSO shall continuously evaluate the adequacy of prescribed health and safety procedures and levels of protection against the actual conditions encountered in the field. Where an obvious discrepancy exists between the realized hazard(s) and the level of PPE (either too much or too little) the SSO shall immediately bring the situation to the attention of the HSO (if different than the SSO). With the concurrence of the HSO, the Field Team Leader and the HPT, the SSO shall take appropriate corrective action. The SSO has final onsite authority for all matters specifically related to worker health and safety, and emergency situations that require immediate action including the authority to temporarily cease operations pending discussion with the HSO and/or responsible Health Physics Supervisor. Additional responsibilities of the SSO include:

1. Maintaining safe and appropriate working conditions and work practices on a project at all times.
2. Overseeing confined space entries.
3. Ensuring that all Class II and III confined space entries are done in accordance with the requirements found in WHC-CM-4-3, Standard W-13, "Confined Space Entry."
4. Performing onsite air monitoring and personal sampling as specified in the site HWOP.
5. Verifying that all injuries and work related afflictions are properly treated and reported to the HSO.
6. Participating in safety briefings/meetings as appropriate.

#### **4.4.5 Industrial Safety and Fire Protection**

Industrial Safety and Fire Protection is responsible for reviewing and approving the site HWOP with particular emphasis on sections regarding emergency procedures, fire and explosion, and confined space entry.

Industrial Safety and Fire Protection shall perform independent periodic health and safety audits to verify that all procedures and requirements specified in the site HWOP are being properly implemented in the field.

#### **4.4.6 Health Physics**

Health Physics has overall responsibility for assessing the probable nature and extent of radiological hazard(s) associated with a given task, and establishing appropriate health and safety procedures to effectively mitigate such hazards. The manager of Health Physics or designee approving the radiological portions of the site HWOP must meet the Health Physics qualification requirements as stated in WHC-CM-4-3, Volume 4. The manager of Health Physics has final authority for all task related radiological health issues, monitoring requirements, action levels, protective measures, etc. Specific responsibilities include:

1. Overseeing the radiation dosimetry program.
2. Developing or assessing appropriate task specific radiological monitoring procedures, action levels, levels of PPE, decontamination procedures, etc.
3. Preparing and/or approving the radiological health portion of the site HWOP and/or accompanying Radiation Work Permit (RWP).

#### **4.4.7 Health Physics Technician**

The HPT is responsible for assuring that all radiological monitoring and protection procedures are being followed as specified in the RWP as part of the site HWOP, and has the authority to take whatever steps may be necessary to do so. Specific responsibilities of the HPT include:

1. Conducting ambient radiation (exposure) monitoring.
2. Onsite operation and maintenance of all radiological monitoring instruments.
3. Maintaining proficiency in the technical and regulatory aspects of hazardous waste related health and safety, personnel protective equipment and monitoring procedures.
4. Informing all contractors and subcontractors of potential health and safety hazards and emergency response procedures.

5. Following-up all accidents, work-related illnesses and/or health related "incidents."
6. Documentation and recordkeeping as required.

#### 4.4.8 Employees

Occupational safety ultimately is a matter of each individual making a conscious effort to perform the job duties in a safe manner. Specific employee responsibilities include:

1. Being watchful for potentially hazardous working conditions or work practices and reporting them to his supervisor(s) as soon as possible.
2. Conscientiously applying all health and safety related training in daily activities.
3. Reading, understanding and abiding by all applicable standard operating procedures, written health and safety manuals, and site specific HWOP.
4. Using all required PPE as instructed or in accordance with WHC requirements.

#### 5.0 REQUIREMENTS

The DOE Order 5480.4, "Environmental Protection, Safety and Health Protection Standards;" DOE-RL Order 5480.4B, "Environmental Protection, Safety and Health Protection Standards;" DOE-RL Order 5480.10A; WHC CM-4-3 and 29 CFR 1910.120 specifically require that a site health and safety plan be prepared and approved prior to hazardous waste site work activities.

A plan will be prepared for all hazardous waste site operations where EET&P, as a WHC representative, is the HWSMC as defined in DOE-RL Order 5480.10A, Part J, and will affect all activities and all personnel working at that designated site. The requirements of the plan will be imposed on all individuals who are involved regardless of what company or agency they work for.

#### 5.1 CONTENT AND FORMAT REQUIREMENTS

The content requirements as set forth in 29 CFR 1910.120 are addressed and the format interpreted for hazardous waste site operations in WHC-CM-4-3, Volume 4. The HWOP will comply with all requirements for hazardous waste operations on the Hanford Site as specified in WHC-CM-4-3, Volume 4.

## 5.2 PROJECT IDENTIFICATION REQUIREMENTS

Project identification information will appear on the approval page of the HWOP in sufficient detail to adequately identify the hazardous waste site/task, using OU number, project number/name, site and/or task as necessary for identification. Typical information, for example, might include:

1. Operable Unit: 1100-EM-1.
2. Site: Horn Rapids Landfill (HRL).
3. Task: Vadose Zone Boreholes, could be further designated by borehole (i.e., HRL-#8).
4. Project/Site: 183-H Basin.
5. Task: Phase I Soil Sampling.

This project identification information should be consistent throughout the work.

## 5.3 RECORDS

The approved HWOP will be forwarded to the EFS Group File Custodian for maintenance, control and transmittal to permanent storage in accordance with EII 1.6, "Records Management."

## 6.0 PROCEDURE

### 6.1 PREPARATION OF THE TIER 2 HEALTH AND SAFETY PLAN

The Work Plan level HASP will consist of the site description and discussion of types/sources of contamination based on all available information, for example, scoping study results, WIDS, site history, personal interviews and facility document searches. It is not intended to provide site-specific detail such as emergency procedures, PPE, site monitoring instruments, site control and decontamination procedures. This information will be detailed in the site/task specific HWOP.

### 6.2 TIER 2 FORMAT AND APPROVAL

1. The format may vary, but should not provide specific detail. The Tier 1 document, "Hazardous Waste Field Operations," (WHC-CM-4-3, Volume 4) is referenced as well as stating that site/task specific HWOPs will detail site/task specific hazards.
2. Approval will be as required for the Work Plan document.

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### 6.3 PREPARATION OF THE TIER 3 HAZARDOUS WASTE OPERATIONS PERMIT

The individual charged with preparing the HWOP will follow Appendix A instructions for preparation using the format shown in Appendix B. Appendices A and B are also found in WHC-CM-4-3, Volume 4, which provides specific direction on preparation of the HWOP.

The Appendix B format may be used in development of Site Safety Plans for nonhazardous field activities when site specific health and safety details are deemed appropriate by the HSO.

### 6.4 TIER 3 FORMAT AND APPROVAL

1. Complete the plan as detailed in Appendix A using the format given in Appendix B.
2. Approvals, as detailed in Section 4.0, will be documented using the approval sheet shown as Page 1 of Appendix B and attached to the front of the HWOP.

### 7.0 REFERENCES

1. 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response," Subpart Z, "Toxic and Hazardous Substances."
2. DOE Order 5480.4, "Environmental Protection, Safety and Health Protection Standards."
3. DOE-RL Order 5480.4B, "Environmental Protection, Safety and Health Protection Standards."
4. DOE-RL Order 5480.10A, "Industrial Hygiene Program," Part J, "Hazardous Waste Site Safety/Health Management."
5. WHC-CM-4-3, Industrial Safety Manual.  
Volume 1, Standard W-13, "Confined Space Entry."  
Volume 4, "Hazardous Waste Field Operations." TBI
6. WHC-CM-7-7, Environmental Investigations and Site Characterization Manual.  
EII 1.1, "Hazardous Waste Site Entry Requirements."  
EII 1.5, "Field Logbooks."  
EII 1.6, "Records Management."
7. PNL-6456, "Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford."
8. DHHS (NIOSH) Publication No. 85-114, "NIOSH Pocket Guide to Chemical Hazards."

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9. DHHS (NIOSH) Publication No. 87-114, "NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) EPA Integrated Risk Information System (IRIS)."
10. ISBN 0-936712-78-3, "TLVs and Biological Exposure Indices," American Conference of Governmental Industrial Hygienists.
11. ISBN 0-442-28020-3, "Dangerous Properties of Industrial Materials."
12. U. S. EPA, Office of Energy and Remedial Response, Hazardous Response Support Division Course Manual, Section 3.2.2.5, "Warning Concentrations of Various Chemicals, Personal Protection and Safety."
13. Ruth, Jon H., "Odor Thresholds and Irritation Levels of Several Chemical Substances, a review," American Industrial Hygiene Association Journal, Volume 47, No. 3, March 1986.
14. "NIOSH Recommendations for Occupational Safety and Health Standards; Morbidity and Mortality Weekly Report Supplement," U.S. Department of Health and Human Services Public Health Service, National Institute for Occupational Safety and Health Centers for Disease Control.

061100116

## APPENDIX A

### HAZARDOUS WASTE OPERATIONS PERMIT

#### 1.0 RESPONSIBILITIES AND REVIEW PROCESS

##### 1.1 HAZARDOUS WASTE OPERATIONS PERMIT ORIGINATORS

The Hazardous Waste Operations Permit (HWOP) will originate with either the Project Coordinator or the Field Team Leader. A HWOP must be prepared for each specific task or group of related tasks within a specific area. It is the responsibility of the originator to describe the project/task and to complete Items 1 through 8 in the HWOP. The originator will then submit the HWOP to the Environmental Field Services Group Health and Safety Officer (HSO).

##### 1.2 HEALTH AND SAFETY OFFICER

The HSO shall act as the HWOP coordinator and oversee the preparation and review of the permit throughout the entire process.

It is the responsibility of the HSO to review the information submitted by the originator of the HWOP, evaluate the risk to employee safety and health, and prepare Sections 9 through 18 and 24 through 29. Upon completion of the body of the HWOP, the HSO shall submit to Industrial Safety and Fire Protection (IS&FP) for review.

##### 1.3 INDUSTRIAL SAFETY AND FIRE PROTECTION

Industrial Safety and Fire Protection shall review the HWOP addressing confined space entry, cutting and welding, asbestos work, onsite organization and coordination, and emergency procedures. It is the responsibility of IS&FP to add comments and/or appropriate additional requirements to the HWOP in the Special Instructions section (Section 25) and to signoff and return the HWOP to the HSO in a timely manner.

##### 1.4 HEALTH PHYSICS

All tasks that require entry into a radiation control zone, or which due to the nature and/or location of the task involve a reasonable possibility of encountering radiological contamination beyond the surface boundaries of a radiation control zone, must be reviewed by Health Physics.

It is the responsibility of Health Physics to complete Items 19 through 23 of the HWOP and to review Items 11 through 16 addressing personal protective equipment (PPE), decontamination, and emergency procedures, specifically from a radiological health standpoint. Appropriate comments or requirements must be included in Section 25, "Special Instructions."

## 1.5 COGNIZANT MANAGER

Upon completion of review by IS&FP and Health Physics, the HSO shall incorporate all additional comments and resolve any potential discrepancies in required work practices, levels of protection, decontamination procedures, emergency procedures, etc., resulting from differing radiological, toxicological, and/or safety concerns.

The HSO shall sign the completed HWOP and submit it to the Cognizant Manager for final approval.

## 1.6 FIELD TEAM LEADER AND SITE SAFETY OFFICER

Upon final approval by the responsible group, the HWOP is returned to the originator. It is the responsibility of the Field Team Leader to ensure that all equipment and personnel necessary to perform the task as defined in the HWOP are available and on-site.

Prior to start up the Field Team Leader and SSO must conduct a safety briefing and describe/discuss/explain the provisions of the HWOP to all task personnel in detail. All personnel in attendance at the safety briefing must sign the safety briefing acknowledgement in the HWOP. Only personnel who have read and documented having read the HWOP shall be permitted beyond the "Contamination Control Line" into the Decontamination and Exclusion Zones. The Field Team Leader must have a copy of the HWOP readily available at the work site at all times.

## 1.7 TASK PERSONNEL

The intent of the HWOP is to present information regarding the task specific hazards, monitoring procedures, levels of PPE and designated work practices in such a manner that the individual worker can readily determine what must be done to perform a particular job safely.

Consequently, it is the responsibility of each task team member to examine the HWOP and become familiar with potential hazards, to identify the specific health and safety procedures associated with the job function, to voice any questions or concerns at the pre-job safety briefing and to perform all designated tasks in accordance with the provisions of the HWOP or as discussed during the pre-job safety briefing.

## 2.0 GUIDANCE IN PREPARING HWOP

Refer to Appendix B.

Items 1 through 8 are to be completed by the originator of the HWOP.

Item 1. Basic Project Information.

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Item 2. Project Description. The originator of the HWOP should describe the nature and purpose of the project, the objectives, the methods and the tasks that the project will involve.

All field work falling under the scope of 29 CFR 1910.120 must be performed under a project/task specific HWOP. Exactly what constitutes a "task" that requires an individual task specific HWOP, however, may vary depending on the situation. For example, a project involving the installation of 10 monitoring wells around the perimeter of a storage basin may be treated as 1 project and require only 1 HWOP provided the tasks and potential hazards are similar in all cases. If, on the other hand, the same "project" also includes the installation of 2 wells within the storage basin, or other unrelated tasks, the anticipated risks, levels of protection, decontamination procedures, and emergency procedures might be considerably different and would require a separate HWOP.

Item 3. Location. The location of the project must include the area (200E, 300, 1100, etc.), the OU (when applicable), the specific facility of interest (crib, disposal trench, storage basin, etc.) and the physical location with specific reference points wherever possible.

Item 4. Facility/Work Site Description. The originator should include a brief description of the facility under investigation, the worksite and working conditions. For example, will the project involve work inside of a structure, or in a security area or will work be performed around the perimeter of a storage basin on flat stable ground or through the middle of a potentially unstable crib?

Item 5. Proposed Personnel and Job Functions. The personnel should be listed either by name or job function, along with the tasks they will perform. The specific individuals may be different in the final onsite organization, but the tasks involved with each position should be essentially the same.

Items 6 and 7. Confined Space Entry and Cutting and Welding. Self explanatory. Included to alert health and safety personnel to potential hazards.

Item 8. Other Potential Hazards. Intended to offer additional insight to the HSO and to make the originator think about potential hazards. The originator of the HWOP should identify any and all health and safety hazards which may be reasonably anticipated.

Items 9 through 19 are to be completed by the HSO and reviewed by Health Physics and IS&FP.

Item 9. Chemical/Radiological Hazard Evaluation. The HSO must identify the media and hazardous characteristics of the substances that site workers may encounter.

The list of the specific hazardous contaminants that could potentially be present on a site will frequently include hundreds of chemical substances and or radionuclides that are known or suspected to have been released in quantities ranging from less than 1, to tens of thousands of kilograms or micro curies to hundreds of millicuries or more. In such instances, it is not necessary or desirable to include every potential contaminant in the HWOP. A lengthy list of radioactive isotopes, along with the associated activity levels, beta energies, gamma photon energies, alpha energies, etc., will do little to enhance a site worker's perception of health and safety hazards posed by a site; however, the information presented in Item 9 will tell the employee everything they need to know.

The HSO shall use the hazard rating scheme presented in Tables A1 through A7 of this appendix to identify the specific chemical substances (out of all potential chemical contaminants) that must be included in Item 9 in the HWOP. Point values ranging from 0 to 5 are assigned to each suspected chemical substance in each of 6 categories based on the allowable exposure limits presented in Table A1; quantities released or concentrations in the soil or water presented in Table A2; availability and response of direct reading instruments presented in Table A3; the vapor pressure of the substance presented in Table A4; the toxicity presented in Table A5; and the warning properties presented in Table A6. Points are totalled for each substance in Table A7. All site contaminants that score a hazard rating of "I2" (moderate) or greater must be identified in Item 10 of the HWOP unless there is a chemical substance with similar chemical and/or toxicological properties present that has a higher total score (i.e., if trichloroethylene rates "high" and perchloroethylene rates "moderate," it is not necessary to list perchloroethylene).

Compound specific Material Safety Data Sheets (MSDS) may be included as an addendum. The purpose of Item 9, however, namely to characterize chemical and radiological hazards at a glance, should not be compromised with more information than is necessary in the HWOP.

Sources of information:

1. Allowable Exposure Limits.

- a. "TLVs and Biological Exposure Indices," American Conference of Governmental Industrial Hygienists, ISBN 0-936712-78-3.
- b. 29 CFR 1910, Subpart Z, "Toxic and Hazardous Substances," Sections 1000 through 1018, 1025, 1028, 1044 through 1048, and 1101.
- c. "NIOSH Recommendations for Occupational Safety and Health Standards; Morbidity and Mortality Weekly Report Supplement," September 26, 1986, Vol. 35/No. 15, U.S. Department of Health and Human Services Public Health Service, National Institute for Occupational Safety and Health Centers for Disease Control.

2. Quantities Released, Concentrations in Soil and Water.

- a. Waste Information Data System (WIDS).
- b. Stenner, et al., "Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford," PNL-6456, Volume 1 through 3, prepared by Pacific Northwest Laboratory for the DOE.
- c. Various relevant site/facility specific reports, studies, etc.

3. Availability and Response Factors of Direct Reading Instruments.

Instruction manuals and/or manufacturers data:

- a. Photoionization detectors (PIDs):
  - HNU (trademark of HNU Systems, Inc., Newton Massachusetts).
  - Photovac (trademark of Photovac International, Inc., Huntington, New York).
  - Thermo Environmental (trademark of Thermo Environmental, Inc., Franklin, Massachusetts).
- b. Organic vapor analyzer (OVA):
  - Foxboro (trademark of The Foxboro Company, Foxboro, Massachusetts).
- c. Combustible Gas Detectors:
  - MSA (trademark of Mine Safety Appliances Company, Pittsburgh, Pennsylvania).
  - Biosystems (trademark of Biosystems, Inc., Rockfall, Connecticut).
  - Industrial Scientific (trademark of Industrial Scientific Corp., Oakdale, Pennsylvania).
- d. Colormetric Detector Tubes:
  - MSA.
  - Draeger (trademark of National Draeger, Inc., Pittsburgh, Pennsylvania).
  - Sensidyne (trademark of Sensidyne, Clearwater, Florida).
- e. Organic vapor monitor (OVM):
  - Thermo Environmental.

4. Vapor Pressure.

- a. "NIOSH Pocket Guide to Chemical Hazards," DHHS (NIOSH) Publication No. 85-114.
- b. Sax, "Dangerous Properties of Industrial Materials," Van Nostrand Reinhold, ISBN 0-442-28020-3.

5. Toxicity.

- a. Sax, "Dangerous Properties of Industrial Materials," Van Nostrand Reinhold, ISBN 0-442-28020-3.
- b. "NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) EPA Integrated Risk Information System (IRIS)," DHHS (NIOSH) Publication No. 87-114.

6. Warning Properties.

- a. "Odor Thresholds and Irritation Levels of Several Chemical Substances, A Review," Ruth, Jon H. American Industrial Hygiene Association Journal, Vol. 47, No. 3, March 1986.
- b. "Warning Concentrations of Various Chemicals, Personal Protection and Safety," (Course Manual Section 3.2.2.5), U.S. EPA, Office of Energy and Remedial Response, Hazardous Response Support Division.

Item 10. Ambient Air/Site Monitoring Procedures. Appropriate monitoring instruments, monitoring frequencies and any other special monitoring considerations should be specified in Item 10. See the Section on "Monitoring" in WHC-CM-4-3, Volume 4, "Hazardous Waste Field Operations," for additional guidance.

Item 11. Personal Monitoring. Personal monitoring requirements including who is to be monitored (by job function), how they are to be monitored, how often they are to be monitored, and what they are to be monitored for must be specified in Item 11.

Item 12. Biological Monitoring/Medical Surveillance. Any requirements for project specific biological monitoring and/or medical surveillance procedures (where required) shall be indicated and described.

Item 13. Action Levels. Specific action levels and the commensurate "actions" should be identified for readings on each instrument. Action levels are usually set at 50% of the most stringent exposure level, e.g., threshold limit value (TLV), permissible exposure limit (PEL), recommended exposure limit (REL), etc. Warning levels are set even lower than the action level and should be based on the allowable exposure limits and instrument response to the substances rated highest in Item 9.

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Item 14. *On-Site Control.* The following information shall be included in this section of the HWOP.

Initial Zone Designations

<u>Site Identification</u>	<u>Exclusion</u>	<u>Control</u>	<u>CRZ</u>	<u>Support</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

GENERAL DISCUSSION

To minimize the accidental spread of hazardous substances and radiation from contaminated areas to clean areas, zones will be delineated on the site where different types of operations will occur. The flow of material, equipment and personnel between zones will be controlled.

In general, four types of zones and one area will be used at sites covered by this plan: 1) Exclusion Zone 2) Control Zone 3) Contamination Reduction Zone (CRZ), 4) Support Zone and Construction Area.

Establishment of zone and area boundaries will be the joint effort of the cognizant Safety organization, the cognizant Health Physics Technician, and the Field Team Leader. Control of all zones with the exception of the Support Zone will be established by a physical barrier (chain, rope or fence). All zone boundaries and areas with the exception of the Support Zone shall be clearly marked with temporary or permanent signs. No boundary establishment or marking requirements are required for the Support Zone since this zone is any area of the Hanford Site that has unrestricted access. Changes to zone or area boundaries can be initiated only by the SSO, HPT, Health and Safety Officer or Field Team Leader.

ZONE DEFINITIONS

Exclusion Zone - The area where contamination does or could occur.

Access Control Points shall be established at the periphery of the Exclusion Zone to regulate the flow of personnel and equipment into and out of the zone and to ensure that proper procedures for entering and exiting are followed. If feasible, separate entrances and exits should be established to separate personnel and equipment movement into and out of the Exclusion Zone.

Control Zone - A work site characterized by available documentation and support data as having negligible, minimal or reduced risk potential to site personnel. A Control Zone is characterized as nonhazardous and does not require decontamination or a CRZ designation. Periodic monitoring of personnel or equipment may be conducted at the exit of the Control Zone.

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**Support Zone** - The location for administrative and other support functions needed to keep operations in the Exclusion or Control Zones running smoothly. The Support Zone is defined as any part of the Hanford Site where exposure of workers to chemical or radiological hazards is not expected (or anticipated) and where no personal protective equipment is required.

**Construction Area** - An area established adjacent to a Control, Contamination Reduction or Exclusion Zone. The construction area is established to control potential physical hazards where construction activities may take place in support of work inside the Control or Exclusion Zones. This area shall not include the designated parking area or any other support facilities/areas within the Support Zone such as support trailers, restroom facilities, protective equipment storage lockers, heat stress relief areas, etc.

Item 16. Decontamination. The specific stations, required equipment and step by step decontamination procedures must be clearly identified for both personnel and equipment.

Item 17. Confined Entry Procedures. Specific hazards, monitoring requirements, levels of protection and procedures must be identified in Item 17 prior to entry into any confined space.

Items 19 through 23 are to be completed by Health Physics and are of primary interest to the designated project HPTs. Specific instructions or modifications to the HWOP must be presented in Item 25.

Item 19. Radiological Conditions. Radiological hazards are qualitatively addressed in Item 9. Item 19 presents a more specific assessment of the anticipated type of radiation and exposure rates.

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Item 20. Health Physics Technician Coverage. The HPTs and the extent of coverage on the project are specified in Item 20.

Item 21. Personal Protective Equipment for Radiological Hazards. Health Physics must review the levels of PPE and decontamination designated in Items 15 and 16 and include any changes or additional requirements in the Special Instructions in Item 25.

Item 22. Radiation Dosimetry External. Dosimetry requirements for external (alpha) radiation, isotopes of primary concern and internal dosimetry requirements (where applicable) are to be completed by Health Physics in Item 22.

9 1 2 3 4 5 6 7 8 9

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Item 23. Radiation Monitoring. To be completed by Health Physics and implemented by the HPT.

Item 24. Onsite Organization and Coordination. Item 24 should present a final list of task personnel (by name) and their individual job functions. The responsibilities and authority assigned to each position are discussed in detail in Section 4.4 of this instruction.

The list should include both primary and designated alternate HPTs in the event that the primary HPT is unable to remain on the project through completion. The alternate HPTs must be qualified for hazardous waste operations and must attend the initial safety briefing or a subsequent safety briefing prior to going onsite.

Item 25. Training/Special Requirements. Any additional information, special procedures, specific requirements and/or deviation from standard HWOP format are to be included and clearly identified in this section of the HWOP.

Item 26. Sanitation Requirements. The HSO must specify the work site sanitation requirements in the HWOP. At a minimum, provisions for employee sanitation needs must meet OSHA standards for "Sanitation at temporary workplaces," 29 CFR 1910.120 (n):

The Field Team Leader shall secure all required sanitation equipment and facilities and locate at the work site. If it is not possible to locate portable sanitation facilities at the work site, then the nearest permanent facility must be listed and provisions made to provide employees with transportation to that facility as needed.

The SSO shall ensure that all required sanitation equipment and facilities are available prior to start-up and maintained throughout the duration of the project.

Item 27. Emergency Procedures. Specific procedures to be followed in the event of a fire, chemical emergency, or onsite injury or illness, including emergency contacts, radio channels, phone numbers, etc. are to be identified in this section of the HWOP. Acute exposure symptoms and appropriate first-aid procedures must be identified for each of the substances listed in Item 9. A site map showing the location of the nearest phone, first-aid facility and designated hospital/emergency medical facilities should be included as an addendum. At least two onsite personnel must be certified in first aid. All WHC employees at these sites will have completed CPR. Where applicable, specific emergency back-up personnel or task specific emergency equipment (such as tripods, harnesses, hoists, etc. for confined space entry) must also be listed. A copy of the emergency procedures section of the HWOP must be posted at the work site.

Item 28. Safety Briefing. The Field Team Leader, SSO, and HPT (where applicable) must organize and conduct a project specific safety briefing prior to startup of every project covered by a HWOP. The purpose of the

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safety briefing is to convey vital project-specific information to team members, to reinforce each employee's safety awareness and to perform a last minute check that critical safety measures are in place (i.e., fire extinguishers and first-aid kit). The safety briefing is a critical aspect of the entire health and safety effort and must be well thought out and organized in the same manner as decontamination or any other aspect of the HASP.

At a minimum, the briefing must cover the potential hazards associated with the project and the provisions of the HWOP, item by item. Employees should be reminded to remain alert for and immediately report any other hazards not addressed in the HWOP.

In addition, the safety briefing is an ideal forum to discuss any lingering concerns and to share first-hand experiences and/or lessons from other similar projects, near misses, accidents, etc.

All field team personnel in attendance at the safety briefing must sign the safety briefing attendance sheet in the HWOP, or read and document having read the HWOP prior to entry into the controlled zones.

Item 29. Field Procedures Change Authorization. The Field Team Leader, SSO, and HPT are authorized to make reasonable and appropriate changes in procedures designated in the HWOP contingent upon verbal authorization from either the Project Coordinator, HSO or Project Health Physicist as appropriate. Written authorization must follow within 48 hours of verbal authorization.

Table A1. Allowable Exposure.

Lower of PEL, TLV or REL		POINTS
(If there is no assigned REL, use lower of assigned PEL or TLV if available)		
ACGIH A1 or A2, or OSHA Carcinogen with no assigned PEL, TLV, or REL		5
PPM	mg/M <sup>3</sup>	
< 1	< .1	5
≥ 1 < 5	≥ .1 < .5	4
≥ 5 < 10	≥ .5 < 1	3
≥ 10 < 50	≥ 1 < 5	2
≥ 50 < 100	≥ 5 < 10	1
≥ 100 q	≥ 10	0

Approximate Quantities Released Into Facility Under Investigation (Kg)	Concentrations in Soil or Water if Known* (conc. in ppm unless otherwise noted)	Points
$\geq 10,000$	$\geq 1,000$	5
$\geq 1,000 < 10,000$	$\geq 100 < 1,000$	4
$\geq 100 < 1,000$	$\geq 10 < 100$	3
$\geq 10 < 100$	$\geq 1 < 10$	2
$\geq 1 < 10$	$\geq 100 \text{ ppb} < 1$	1
$< 1$	$< 100 \text{ ppb}$	0

\*Use point values based on known concentrations as opposed to quantities released when available.

Table A3. Direct Reading Instrument Response.

Instrument Response	Points
No direct reading instrument with sufficient detection limits available or instrument response $\leq 10\%$	5
> 10 $\leq$ 25%	4
> 25 $\leq$ 50%	3
> 50 $\leq$ 75%	2
> 75 $\leq$ 100%	1
> 100%	0

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Table A4. Vapor Pressure.

Vapor Pressure (mm Hg @ 20°C)	Points
$\geq 100$	5
$\geq 10 < 100$	4
$\geq .1 < 10$	3
$\geq .01 < .1$	2
$\geq .01 < .01$	1
$< .001$	0

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Table A5. Toxicity.

LD <sub>50</sub> (oral rat) mg/Kg unless noted otherwise	Points
< 1 mg/Kg or any ACGIH A1 or A2 or OSHA carcinogen	5
≥ 1 < 50	4
≥ 50 < 500	3
≥ 500 < 5 gm/kg	2
≥ 5 gm/kg < 15 gm/kg	1
≥ 15 gm/kg	0

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Table A6. Warning Properties.

Odor or Irritation Threshold (TLVs refer to 8-hour TWA unless C (ceiling) notation)	Points
unknown, none, or $> 10 \times \text{TLV}$ or $> 2 \times \text{TLV(C)}$	5
$> 2 \times \text{TLV} \leq 10 \times \text{TLV}$ or $> \text{TLV(C)} \leq 2 \times \text{TLV(C)}$	4
$> \text{TLV}/2 \leq 2 \times \text{TLV}$ or $> \text{TLV(C)}/2 \leq \text{TLV (C)}$	3
$> \text{TLV}/10 \leq \text{TLV}/2$ or $> \text{TLV(C)}/10 \leq \text{TLV(C)}/2$	2
$> \text{TLV}/100 \leq \text{TLV}/10$ or $> \text{TLV(C)}/100 \leq \text{TLV(C)}/10$	1
$< \text{TLV}/100$ or $\text{TLV(C)}/100$	0

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**Table A7. Chemical Hazard Evaluation.**

[illegible]

Hazard Rating for Specific Chemical Substance		Total
Points		
Extreme	> 24	
High	> 18	< 24
Moderate	> 12	< 18
Low	> 6	< 12
Negligible	< 6	

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APPENDIX B

HAZARDOUS WASTE OPERATIONS PERMIT FORMAT

WESTINGHOUSE  
HANFORD COMPANY

HAZARDOUS WASTE OPERATIONS PERMIT  
PROJECT \_\_\_\_\_

I. Project Name \_\_\_\_\_  
Job Description \_\_\_\_\_  
Requested by \_\_\_\_\_  
Proposed Start-up Date \_\_\_\_\_  
Rev. No. \_\_\_\_\_

APPROVALS - PRINTED NAME/SIGNATURE

Author \_\_\_\_\_ Date \_\_\_\_\_

Project Coordinator \_\_\_\_\_ Date \_\_\_\_\_

Health and Safety Officer \_\_\_\_\_ Date \_\_\_\_\_

Manager, Industrial Safety and Fire Protection \_\_\_\_\_ Date \_\_\_\_\_

Manager, Health Physics \_\_\_\_\_ Date \_\_\_\_\_

Cognizant Manager \_\_\_\_\_ Date \_\_\_\_\_

Field Team Leader \_\_\_\_\_ Date \_\_\_\_\_

CONCURRENCE: Kaiser Engineers Hanford \_\_\_\_\_ Date \_\_\_\_\_

CONCURRENCE: Hanford Environmental Health Foundation \_\_\_\_\_ Date \_\_\_\_\_

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HAZARDOUS WASTE OPERATIONS PERMIT

PROJECT \_\_\_\_\_

Rev. No. \_\_\_\_\_

2. Project Description:

3. Location:

4. Facility/Work Site Description:

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PROJECT \_\_\_\_\_

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5. Proposed Personnel and Job Functions:

Project Coordinator \_\_\_\_\_

Field Team Leader \_\_\_\_\_

Proposed Field Team	Job Function
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

6. Confined Space Entry

Will this task require entry into any confined  
or partially confined space? ☐ YES - Describe below  
☐ No

7. Cutting and Welding

Will this task involve use of a cutting torch  
or welding? ☐ YES - Describe below  
☐ No

8. Other Potential Hazards

- |   |  |
|---|--|
| <input type="checkbox"/> Chemical                       | <input type="checkbox"/> Trips, Slips, Falls               |
| <input type="checkbox"/> Radiological                   | <input type="checkbox"/> Trenching/Shoring                 |
| <input type="checkbox"/> Fire/Explosion                 | <input type="checkbox"/> Heavy Equipment/Vehicular Traffic |
| <input type="checkbox"/> Heat Stress                    | <input type="checkbox"/> Overhead Hazards                  |
| <input type="checkbox"/> Electrical                     | <input type="checkbox"/> Unstable/Uneven Terrain           |
| <input type="checkbox"/> Machinery/Mechanical Equipment | <input type="checkbox"/> Other - Describe below            |

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6,7,8 Description/Other

9. Chemical/Radiological Hazard Evaluation

Waste Media

- ☐ Airborne Contamination
- ☐ Surface Contamination
- ☐ Contaminated Soil
- ☐ Contaminated Groundwater
- ☐ Contaminated Surface Water
- ☐ Solid Waste
- ☐ Liquid Waste
- ☐ Sludge

Hazardous Characteristics

- ☐ Ignitable
- ☐ Corrosive
- ☐ Reactive
- ☐ Explosive
- ☐ Toxic (non-radiological)
- ☐ Radioactive

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Substance

This task will involve the reasonable possibility of exposure to the substances listed below at concentrations or in quantities which may be hazardous to the health of the site personnel.

Primary Hazard (Rate: neg, low, mod, high, ext)

Substance	<u>Inhalation of:</u>		Ingestion	<u>Dermal Absorption of:</u>				
	<u>Gases/ Vapors</u>	<u>Dust/ Mist</u>		<u>Solids/ Liquids and/or Skin Contam.</u>	<u>Gases/ Vapors</u>	<u>Corrosive/ Irritant</u>	<u>Ignit- ability</u>	<u>Reactivity/ Explosion</u>

Substance	Exposure Limit	IDLH Level	Health Effects
-----------	----------------	------------	----------------

10. Ambient Air/Site Monitoring Procedures

The following instruments shall be used to monitor the work environment and workers' breathing zones prior to site entry and at the specified intervals.

Instrument	Monitoring Frequency				
____ PID (HMU, OVM) w/____eV lamp	Cont.	15min.	30min.	hourly	other _____
____ OVA	Cont.	15min.	30min.	hourly	other _____
____ Combustible Gas Indicator	Cont.	15min.	30min.	hourly	other _____
____ H <sub>2</sub> S Detector	Cont.	15min.	30min.	hourly	other _____
____ Colorimetric Detector Tubes (list types of tubes below)	Cont.	15min.	30min.	hourly	other _____
____ pH Paper	Cont.	15min.	30min.	hourly	other _____
____ Other	Cont.	15min.	30min.	hourly	other _____

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Other:

11. Personal Monitoring

\_\_\_ Passive Dosimeter

\_\_\_ Personal Air Sampling

\_\_\_ Other

Description/Other:

12. Biological Monitoring/Medical Surveillance

\_\_\_ This project requires medical surveillance or biological monitoring procedures beyond the provisions of the routine medical surveillance program (see description below).

Description:

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13. Action Levels

Field team personnel shall observe the following Action Levels:

Instrument

Action Level

Specific Action

9 1 1 9 9 0 7 5

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14. Onsite Control

Control boundaries have been established, and the Exclusion Zone, Contamination Control Zone and Support Zone have been designated and are identified as follows:

\_\_\_\_\_ have been designated to coordinate access control on the work site during this task. No unauthorized person shall be allowed beyond the Exclusion Zone.

15. Personal Protective Equipment

Location	Job Function/Task	Initial Level of Protection
Contamination Control Zone	_____	B C D
Exclusion Zone	_____	B C D
Support Zone	_____	B C D
Rational:		

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List the specific protective equipment and material (where applicable) for each of the Levels of Protection identified above:

Level B

- \_\_\_ Pressure demand airline
- \_\_\_ Pressure demand airline with escape provisions
- \_\_\_ Pressure demand SCBA
- \_\_\_ Full Body Saranex Coveralls

Level C

- \_\_\_ Half face Air Purifying Respirator
- \_\_\_ Full face Air Purifying Respirator
- \_\_\_ Full face canister Air Purifying Respirator

Level 0

Level \_\_\_\_\_

Where air purifying respirators are authorized, \_\_\_\_\_ are the appropriate canisters/cartridges for use with the specific substances and concentrations anticipated. All respiratory protection will meet the requirements of WHC-CM-4-3, Volume 3, Respiratory Protection Manual.

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE KNOWLEDGE AND APPROVAL OF THE HEALTH AND SAFETY OFFICER.

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16. Decontamination

Personnel and equipment leaving the Exclusion Zone shall proceed through the following decontamination stations and procedures:

Personnel Decontamination

Station

Procedure

- 1.
- 2.
- 3.
- 4.
- 5.

- 1.
- 2.
- 3.
- 4.
- 5.

Equipment Decontamination

Station

Procedure

The following decontamination equipment is required:

Emergency decontamination procedures:

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17. Confined Entry Procedures \_\_\_\_\_ Not Applicable

Yes N/A

Yes N/A

\_\_\_\_ Provide Forced Ventilation

\_\_\_\_ Refer to Personal Protective Equipment

\_\_\_\_ Test Atmosphere For:

\_\_\_\_ Refer to Emergency Procedures

\_\_\_\_ (a) % O<sub>2</sub>

\_\_\_\_ Other Special Procedures

\_\_\_\_ (b) % LEL

\_\_\_\_ (c) Other

Descriptions/Other:

18. Cutting/Welding Procedure \_\_\_\_\_ Not Applicable

Yes N/A

\_\_\_\_ Relocate or Protect Combustibles

\_\_\_\_ Wet Down or Cover Combustible Floor

\_\_\_\_ Check Flammable Gas Concentrations (% LEL) in air

\_\_\_\_ Cover Wall, Floor, Duct and Tank Openings

\_\_\_\_ Provide Fire Extinguisher

Other Special Instructions:

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19. Radiological Conditions

Contamination Potentials  
(Rate-neg, low, med, high, ext)

Exposure Rates Expected Average/Maximum:

\_\_\_ Alpha \_\_\_ Beta/Gamma

\_\_\_ Beta \_\_\_ Gamma \_\_\_ Neutron

Smearability/Fixed:

Whole Body/Extremity:

20. Health Physics Technician Coverage

\_\_\_ None \_\_\_ Intermittent \_\_\_ Continuous \_\_\_ See RWP No. \_\_\_

HPT Coverage Required When:

HPT Coverage Required Until:

Authorized Health  
Physics Technicians:

21. Personal Protective Equipment for Radiological Hazards

\_\_\_ See RWP No.

22. Radiation Dosimetry External

\_\_\_ Basic TLD

\_\_\_ HMPD

Known Or Suspected Isotopes:

\_\_\_ Pencil

\_\_\_ Finger Ring

\_\_\_ PADI

\_\_\_ Timekeeping

\_\_\_ Other

Comments:

23. Radiation Monitoring

The following instruments shall be used to monitor the work environment for radiation.

___ Micro R Meter	Cont.	15min.	30min.	hourly	other	_____
___ Dose Rate Instrument	Cont.	15min.	30min.	hourly	other	_____
___ Alpha Detection Instrument	Cont.	15min.	30min.	hourly	other	_____
___ Beta Detection Instrument	Cont.	15min.	30min.	hourly	other	_____
___ Other	Cont.	15min.	30min.	hourly	other	_____

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24. Onsite Organization and Coordination: To be completed on site.

Project Coordinator: \_\_\_\_\_

Field Team Leader: \_\_\_\_\_

Site Safety Officer: \_\_\_\_\_

Designated Health Physics Technician:

Alternate Health Physics Technician:

**Field Team**

Name \_\_\_\_\_

### Job Function

[illegible]

## 25. Training/Special Requirements

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26. Sanitation Requirements

Portable water supply available on work site? \_\_\_\_\_

Yes

Portable toilets required on work site? \_\_\_\_\_

Yes

If Yes, how many? \_\_\_\_\_

No

Temporary washing/shower facilities required at work site? \_\_\_\_\_

Yes

If yes, describe below.

No

If no, state location  
of existing facilities.

Description: \_\_\_\_\_

27. Emergency Procedures

Yes No

\_\_\_\_\_ On-site Communications Required? Emergency Channel \_\_\_\_\_

Nearest Telephone \_\_\_\_\_

Fire and Explosion

In the event of a fire or explosion, take immediate action if the situation can be readily controlled with available resources without jeopardizing the health and safety of site personnel and the public.

If the situation cannot be readily controlled:

1. Notify emergency personnel by calling \_\_\_\_\_

2. If possible, isolate the fire to prevent spreading.

3. Evacuate the area.

Chemical Exposure

Site workers must notify the Site Safety Officer immediately in the event of any injury or any of the signs or symptoms of overexposure to hazardous substances identified below:

Substances Present

Symptoms of Acute Exposure

First Aid

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On Site Injury Or Illness

In the event of an injury requiring more than minor first aid, or any employee reporting any sign or symptom of exposure to hazardous substances, immediately take the victim to \_\_\_\_\_ located at \_\_\_\_\_ Phone \_\_\_\_\_.

In the event of life-threatening or traumatic injury, implement appropriate first-aid and immediately call for emergency medical assistance at \_\_\_\_\_. The nearest designated trauma center is located at \_\_\_\_\_. Phone \_\_\_\_\_.

Designated Personnel Current in First Aid/CPR (Names)

Name	Function
_____	_____
_____	_____
_____	_____
_____	_____

Designated Back-Up Personnel

_____	_____
_____	_____
_____	_____
_____	_____

Emergency Response Authority

\_\_\_\_\_ are the designated Site Emergency Coordinators and have final authority for first response to on-site emergency situations.

Upon arrival of the appropriate emergency response personnel, the Site Emergency Coordinator shall defer all authority but shall remain on the scene if necessary to provide any and all possible assistance. At the earliest opportunity, the Site Safety Officer or the Site Emergency Coordinator shall contact the WHC Project Coordinator or Health and Safety Officer.

Project Coordinator \_\_\_\_\_ Phone (w) \_\_\_\_\_ (h) \_\_\_\_\_

Health and Safety Officer \_\_\_\_\_ Phone (w) \_\_\_\_\_ (h) \_\_\_\_\_

Note:

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The following personnel were present at pre job safety briefing conducted at \_\_\_\_\_ (time) on \_\_\_\_\_ (date) at \_\_\_\_\_ (location), and have read the above plan and are familiar with its provisions:

**Signature**

[illegible]

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The following items will be checked and verified where applicable prior to start of work:

	Yes	N/A
Fully charged ABC Class fire extinguisher available on site?	—	—
Fully stocked First Aid Kit available on site?	—	—
All project personnel advised of location of nearest phone?	—	—
All project personnel advised of location of designated medical facility or facilities?	—	—
Decontamination Trailer on site?	—	—
All ppe on site?	—	—
Bottle cart and breathing air on site?	—	—
Hazardous Waste Operating Permit covered in pre-job safety meeting?	—	—
Emergency personnel notified of field activities?	—	—

Printed Name of Field Team Leader or Site Safety Officer \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

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29. Field Procedures Change Authorization

Instruction Number  
to be changed

Duration of Authorization Requested  
\_\_\_\_ Today only  
\_\_\_\_ Duration of Task

Date: \_\_\_\_\_

Description of Procedures Modification:

Justification:

Person Requesting Change:

Verbal Authorization Received From:

\_\_\_\_\_  
Name

\_\_\_\_\_  
Name

\_\_\_\_\_  
Time

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Approved By

(Signature of person named above to be obtained  
within 48 hours of verbal authorization)

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